

are pressed, and the added key value is compared to a predetermined value to determine if multiple keys have been simultaneously pressed.

U.S. Patent No. 5,264,845 issued to Kwon et al. discloses a key scan circuit that scans rows and columns of keys in a key pad to determine which keys have been pressed. A first memory MA is initialized with bits 1111 and a second memory MB is initialized with bits 0000, where the memory MA is used to determine if a key is pressed in one of the rows and the memory MB is used to determine if a key is pressed in one of the columns (Figure 2). If no keys are pressed, then the memories MA and MB remain 1111 and 0000, respectively. If a key is pressed on the keypad, then the corresponding bit in the memory MA will be changed to a 0 depending on what row the key is in, and the corresponding bit in the memory MB will be changed to a 1 depending on what column the key is in. In other words, one of the bits in the memory MA is changed if any key is pressed in the row that that bit represents, and one of the bits in the memory MB is changed if any key is pressed in the column that that bit represents.

The Kwon scan circuit determines if multiple keys are simultaneously pressed (double-key) in step S609. Particularly, if multiple keys are pressed, the key scan circuit will put more than one 0 bit in the memory MA and/or more than one 1 bit in the memory MB. Particularly, column 4, lines 16-21 states, "[i]f more than one logic '0's' appear in first memory MA, or if more than one logical '1's' are present in second memory MB, step S609 judges that multiple keys are being pushed, and then the operation advances to step S610 and performs an error process, and then completes the operation." If a double-key is not pressed, the Kwon et al. scan circuit calculates a key value to identify the key at step S611 using the formula  $4m+n=MV$  (Column 4, lines 22-29).

Applicant respectfully submits that Kwon et al. does not teach assigning a predetermined key press value to each key. The keys are identified by the overlap of the logic 0s and 1s in the memories MA and MB, and therefore each key is not assigned its own predetermined key press value. A key's value is defined using the formula  $4m+n=MV$ . Therefore, Kwon et al. also does not teach adding the predetermined key press values when the keys are pressed to identify the key. Therefore, Applicant respectfully submits that Kwon et al. does not anticipate independent claims 1, 10 and 15 for these reasons.

In Applicant's claimed invention, once the key press values are added, the added key value is compared to a predetermined value to determine if multiple keys have been simultaneously pressed. The Examiner states that Kwon et al. teaches that the scan circuit compares an added key press value to a predetermined value to determine if multiple keys have been simultaneously pressed, citing column 4, lines 9-66. However, the Examiner does not provide any discussion as to how the Kwon scan circuit does this. Applicant respectfully submits that Kwon et al. does not provide this teaching.

Applicant respectfully submits that the teaching in Kwon et al. of determining whether multiple keys have been pressed is found only at column 4, lines 14-21 discussing step S609. This section of Kwon et al. states that the scan circuit determines that multiple keys have been pressed if more than one bit in the memory MA is 0 or more than one bit in the memory MB is 1. Kwon et al. repeats this at column 4, lines 62-65. Nowhere in those sections, or any other section of Kwon et al., does it teach that the key scan circuit determines if multiple keys have been simultaneously pressed by comparing an added key press value to a predetermined

value. Therefore, Applicant respectfully submits that Kwon et al. does not anticipate Applicant's independent claims 1, 10 and 15 for this reason also.

U.S. Patent No. 5,832,206 issued to De Jesus et al. discloses an apparatus for providing security for a key pad processor. It is believed that the Examiner is relying on De Jesus et al. to teach a key pad including a display and a magnetic strip reader. However, Applicant submits that De Jesus et al. does not teach a key pad and decoder that determines key pad presses as discussed above. Therefore, Applicant submits that De Jesus et al. fails to provide the teaching missing from Kwon et al. to make Applicant's claimed invention obvious.

In view of the preceding remarks, it is respectfully requested the §102 and 103 rejections be withdrawn.

It is now believed that this application is in condition for allowance. If the Examiner believes that personal contact with Applicant's representative would expedite prosecution of this application, the Examiner is invited to call the undersigned at his convenience.

Respectfully submitted,

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Dated: 6/22/05

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